IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: Birkestrand et al.	§	Filed: August 21, 2003
Serial No.: 10/645,125	§	Group Art Unit: 2195
Confirmation No.: 7107	§	Examiner: Meng Y. Zhe

For: METHODS, SYSTEMS, AND MEDIA TO EXPAND RESOURCES AVAILABLE TO A LOGICAL PARTITION

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office to fax number 571-273-8300 to the attention of Examiner Meng Y. Zhe, or electronically transmitted via EFS-Web, on the date shown below:

March 16, 2009 — Date
/Sanjay Shenoy/ — Sanjay Shenoy

Dear Sir:

APPEAL BRIEF

Applicants submit this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2195 dated October 16, 2008, finally rejecting claims 1-2, 4-13 and 30-38. The final rejection of claims 1-2, 4-13 and 30-38 is appealed. This Appeal Brief is believed to be timely since it is transmitted by the due date of March 16, 2009, as set by the filing of a Notice of Appeal on January 16, 2009.

Please charge the fee of $540.00 for filing this brief to:

Deposit Account No. 09-0465 / ROC920030189US1.

TABLE OF CONTENTS

Real Party in Interest

The present application has been assigned to International Business Machines Corporation, Armonk, New York.

Related Appeals and Interferences

Applicant asserts that no other appeals or interferences are known to the Applicant, the Applicant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-2, 4-13 and 30-38 are pending in the application. Claims 1-37 were originally presented in the application. Claims 38-40 have been added during prosecution. Claims 3, 14-29 and 39-40 have been canceled without prejudice. Claims 1-2, 4-13 and 30-38 stand finally rejected as discussed below. The final rejections of claims 1-2, 4-13 and 30-38 are appealed. The pending claims are shown in the attached Claims Appendix.

Status of Amendments

All claim amendments have been entered by the Examiner. No amendments to the claims were proposed after the final rejection.

Summary of Claimed Subject Matter

A. CLAIM 1 – INDEPENDENT

Claim 1 is directed to a method for expanding resources available to a first logical partition on a single computer associated with a client. *See* paragraph [0022]. The method comprises associating one or more partition resources of the first logical partition with a grid, wherein the grid comprises grid resources that are available for use by a plurality of logical partitions associated with the grid. *See* paragraphs [0022]-[0024] and [0041]-[0042]. The method further comprises providing grid resources from the grid to the first logical partition based upon usage of the partition resources of the first logical partition. *See* paragraph [0041]; *See also* Figure 3, items 325, 330, and 370. The method also comprises providing on-demand resources to the first logical partition based upon the usage of the partition resources of the first logical partition and a usage of the grid resources, wherein the on-demand resources are available to the single computer, and access to the on demand resources is controlled by a manufacturer of the single computer. *See* paragraphs [0034]-[0036] and [0044]; *See also* Figure 3, items 345, 350, and 380.

B. CLAIM 10 - INDEPENDENT

Claim 10 is directed to a method for expanding resources available to logical partitions on a single computer associated with a client. *See* paragraph [0022]. The method comprises registering resources with a grid as grid resources, wherein the grid resources are available for use by a plurality of logical partitions. *See* paragraphs [0022]-[0024] and [0041]-[0042]. The method further comprises allocating grid resources to a first logical partition after utilization of partition resources of the first logical partition reaches a first utilization threshold. *See* paragraph [0041]; *See also* Figure 3, items 325, 330, and 370. The method also comprises allocating on-demand resources to the first logical partition after the first logical partition reaches a second utilization threshold for the grid resources, wherein the on-demand resources are available to the single computer, and access to the on demand resources is controlled by a manufacturer of the single computer. *See* paragraphs [0034]-[0036] and [0044];

See also Figure 3, items 345, 350, and 380. The method further comprises billing the client for usage of the on-demand resources. *See* paragraphs [0045]-[0049].

C. CLAIM 30 – INDEPENDENT

Claim 30 is directed to a method for managing and controlling allocation of resources to a logical partition on a single computer. *See* paragraph [0022]. The method comprises providing grid resources to the logical partition based upon usage of partition resources of the logical partition, wherein the grid resources comprise one or more resources from each of a plurality of logical partitions of the system, the grid resources being available for use by each partition of the single computer. *See* paragraph [0041]; *See also* Figure 3, items 325, 330, and 370. The method further comprises providing on-demand resources to the logical partition based upon the usage of the partition resources of the logical partition and a usage of the grid resources, wherein the on-demand resources are available to the single computer, and access to the on demand resources is controlled by a manufacturer of the single computer. *See* paragraphs [0034]-[0036] and [0044]; *See also* Figure 3, items 345, 350, and 380.

D. CLAIM 36 – INDEPENDENT

Claim 36 is directed to a method for deploying a computer application on a host service provider system. *See* paragraph [0022]. The method comprises installing a computer application on a logical partition of a single computer, the single computer having on-demand resources associated therewith, wherein the on-demand resources are available to the single computer, and access to the on demand resources is controlled by a manufacturer of the single computer. *See* paragraphs [0034]-[0036] and [0044]; *See also* Figure 1 items 132 and 130. The method further comprises associating the logical partition with a grid, the grid having grid resources that are available for use by any logical partition of the single computer. *See* paragraphs [0022]-[0024] and [0041]-[0042]. The method also comprises configuring the single computer to provide the grid resources to the logical partition based upon usage of the partition resources of the logical partition. *See* paragraph [0041]; *See also* Figure 3, items 325,

330, and 370. The method further comprises configuring the single computer to provide the on-demand resources to the logical partition based upon a usage of the grid resources. *See* paragraphs [0034]-[0036] and [0044]; *See also* Figure 3, items 345, 350, and 380.

Grounds of Rejection to be Reviewed on Appeal

1. Rejection of claims 1-2, 4-6, 8, 9, 30, 32, 36 and 38 under 35 U.S.C. § 103(a) as being unpatentable over "Dynamic Virtual Clusters in a Grid Site Manager", *Sara E. Sprenkle et al.*, Pub. date, June 22-24, 2003 (hereinafter *Sprenkle*) in view of *Camble et al.*, U.S. Pub. No. 2003/0135580 (hereinafter *Camble*) and in further view of "Virtualizing I/O Devices on *VMware* Workstation's Hosted Virtual Machine Monitor", published as part of the Proceedings of the 2001 USENIX Annual Technical Conference (hereinafter *VMware*).

2. Rejection of claims 7, 10, 11-13, 31, 33-35 and 37 under 35 U.S.C. § 103(a) as being unpatentable over *Sprenkle* in view of *Camble* in view of *VMware* and in further view of *Lumelsky et al.*, U.S. Pat. No. 6,460,082 (hereinafter *Lumelsky*).

ARGUMENTS

1. Rejection of claims 1-2, 4-6, 8, 9, 30, 32, 36 and 38 under 35 U.S.C. § 103(a) as being unpatentable over *Sprenkle* in view of *Camble* and in further view of *VMware*.

The Applicable Law

The Examiner bears the initial burden of establishing a prima facie case of obviousness. See MPEP § 2141. Establishing a prima facie case of obviousness begins with first resolving the factual inquiries of Graham v. John Deere Co. 383 U.S. 1 (1966). The factual inquiries are as follows:

(A) determining the scope and content of the prior art;

(B) ascertaining the differences between the claimed invention and the prior art;

(C) resolving the level of ordinary skill in the art; and

(D) considering any objective indicia of nonobviousness.

Once the Graham factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art.

The References

Sprenkle is directed to dynamic resource management in a clustered computing environment. A cluster manager allocates resources from a common pool to multiple virtual clusters, with independently configured software environments, name spaces, user access controls, and network storage volumes. Each virtual cluster includes a plurality of physical computers, referred to as nodes.

VMWare is directed to virtual machines, and more specifically to virtualizing Input/Output devices of a physical machine. For example, a single Network Interface

Card (NIC) may be used to support several virtual NICs. Each virtual NIC may be configured to operate like an independent physical NIC.

Applicants' Argument

I. *Sprenkle* is Not Analogous Art.

Applicants respectfully submit that *Sprenkle* is not analogous art, and therefore, is not relevant prior art. The similarities and differences in structure and function between the invention and the prior art carry great weight in determining whether the prior art is analogous. See MPEP § 2141.01 (a) II. In this case the structure and functions of items disclosed in *Sprenkle* have nothing to do with logical partitions on a single computer. *Sprenkle* is directed to a clustered system comprising a plurality of servers (or computers). *See* Abstract of *Sprenkle*. Specifically, *Sprenkle* describes a cluster manager called Cluster On-Demand (COD) that allocates servers from a common pool to multiple virtual clusters, or vclusters. *See Id.* The Examiner analogizes the first logical partition with the vclusters of *Sprenkle*. However, virtual clusters comprising a plurality of servers are not the same as logical partitions of a single computer. In other words, the structure of the items disclosed in *Sprenkle* is completely unrelated to the structure of the claimed invention. Accordingly, Applicants submit that *Sprenkle* is not analogous art.

Relatedly, the reference teaches away from logical partitions of a single computer. The clustered system of *Sprenkle* necessarily assumes/requires a plurality of servers (or computers). The fundamental objective of *Sprenkle* of allocating server computers from a common pool to multiple virtual clusters, or vclusters, is simply impossible with a single computer.

Therefore, Applicants submit that the rejection of claims 1, 2, 4-13, and 30-38, based on *Sprenkle* is improper.

II. *Examiner Improperly Analogizes the First Logical Partition With Two Different Elements in the Cited References*

On page 3 of the Final Office Action dated October 16th, 2008, regarding claims 1, 30, and 36, the Examiner states that *Sprenkle* discloses associating one or more partition resources of the first logical partition with a grid. In support of this statement, the Examiner asserts that each virtual cluster of *Sprenkle* corresponds to the first partition, as claimed, and that each virtual cluster can donate and share a set amount of resources to the grid. However, while clarifying the rejection in the Advisory Action dated January 9th, 2009, the Examiner states that logical partitions of *VMWare* correspond to the first logical partition, as claimed. Applicants respectfully submit that the first logical partition cannot be both, the virtual cluster of *Sprenkle* and the logical partition of *VMWare*.

Therefore, Applicants submit that the rejection of the claims 1, 30, and 36 on the basis of *Sprenkle* and *VMWare* is improper.

2. Rejection of claims 7, 10, 11-13, 31, 33-35, 37 under 35 U.S.C. § 103(a) as being unpatentable over *Sprenkle* in view of *Camble* in view of *VMware* and in further view of *Lumelsky*.

Applicants submit that the arguments presented in part (I) of the Applicants' argument in the previous section are also applicable to claim 10. Specifically, Applicants submit that *Sprenkle* is not analogous art, and therefore cannot be considered with respect to claim 10.

Claims 7, 11-13, 31, 33-35, 37 depend on one of claims 1, 10, 30 or 36, which are believed to be allowable based on the arguments presented above. Therefore, claims 7, 11-13, 31, 33-35, 37 are also believed to be allowable based on the arguments made with respect to the corresponding independent claims.

CONCLUSION

The Examiner errs in finding that:

1. Claims 1-2, 4-6, 8, 9, 30, 32, 36 and 38 are unpatentable over *Sprenkle* in view of *Camble* and in further view of *VMware*; and
2. Claims 7, 10, 11-13, 31, 33-35, and 37 are unpatentable over of *Sprenkle* in view of *Camble* in view of *VMware* and in further view of *Lumelsky*.

Withdrawal of the rejections and allowance of all claims is respectfully requested.

Respectfully submitted, and
S-signed pursuant to 37 CFR 1.4,

/Gero G. MCCLELLAN, Reg. #44227/

Gero G. McClellan
Registration No. 44,227
Patterson & Sheridan, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Appellant(s)

CLAIMS APPENDIX

1. (Previously Presented) A method for expanding resources available to a first logical partition on a single computer associated with a client, the method comprising:

associating one or more partition resources of the first logical partition with a grid, wherein the grid comprises grid resources that are available for use by a plurality of logical partitions associated with the grid;

providing grid resources from the grid to the first logical partition based upon usage of the partition resources of the first logical partition; and

providing on-demand resources to the first logical partition based upon the usage of the partition resources of the first logical partition and a usage of the grid resources, wherein the on-demand resources are available to the single computer, and access to the on demand resources is controlled by a manufacturer of the single computer.

2. (Previously Presented) The method of claim 1, further comprising metering a usage of the grid resources and the on-demand resources by the client to determine a cost to assess the client.

3. (Cancelled)

4. (Previously Presented) The method of claim 1, wherein associating the one or more partition resources of the first logical partition comprises enabling allocations from the grid resources to the logical partition.

5. (Previously Presented) The method of claim 1, wherein associating the one or more partition resources of the first logical partition comprises registering with the grid at least a portion of partition resources associated with the first logical partition, to allow the portion to be allocated to the plurality of logical partitions associated with the grid.

6. (Previously Presented) The method of claim 1, wherein providing grid resources comprises:

determining an unallocated portion of the grid resources; and

allocating the unallocated portion of the grid resources to the first logical partition.

7. (Previously Presented) The method of claim 1, wherein providing grid resources comprises:

determining that use of partition resources of the first partition has at least reached a partition utilization threshold; and

allocating an unallocated portion of the grid resources to the first logical partition.

8. (Previously Presented) The method of claim 1, wherein providing on-demand resources comprises:

determining that use of partition resources of the first partition has at least reached a partition utilization threshold;

determining that sufficient resources are unavailable from the grid resources; and

allocating an unallocated portion of the on-demand resources to the first logical partition.

9. (Previously Presented) The method of claim 8, wherein providing on-demand resources further comprises:

determining that usage of the grid resources has at least reached a grid utilization threshold;

requesting an enablement code to enable the on-demand resources; and

allocating an unallocated portion of the on-demand resources to the first logical partition.

10. (Previously Presented) A method for expanding resources available to logical partitions on a single computer associated with a client, the method comprising:

registering resources with a grid as grid resources, wherein the grid resources are available for use by a plurality of logical partitions;

allocating grid resources to a first logical partition after utilization of partition resources of the first logical partition reaches a first utilization threshold;

allocating on-demand resources to the first logical partition after the first logical partition reaches a second utilization threshold for the grid resources, wherein the on-

demand resources are available to the single computer, and access to the on demand resources is controlled by a manufacturer of the single computer; and

billing the client for usage of the on-demand resources.

11. (Original) The method of claim 10, further comprising billing the client for usage of the grid resources to offset a cost associated with enabling the on-demand resources.

12. (Previously Presented) The method of claim 10, wherein billing the client for usage of the on-demand resources comprises billing the client for the on-demand resources allocated to the first logical partition based upon actual usage of the on-demand resources.

13. (Previously Presented) The method of claim 10, wherein billing the client for usage of the on-demand resources comprises billing the client for the on-demand resources allocated to the first logical partition based upon a quantity of the on-demand resources allocated and the amount of time for which the quantity of the on-demand resources are allocated.

14-29. (Cancelled)

30. (Previously Presented) A method for managing and controlling allocation of resources to a logical partition on a single computer, comprising:

providing grid resources to the logical partition based upon usage of partition resources of the logical partition, wherein the grid resources comprise one or more resources from each of a plurality of logical partitions of the system, the grid resources being available for use by each partition of the single computer; and

providing on-demand resources to the logical partition based upon the usage of the partition resources of the logical partition and a usage of the grid resources, wherein the on-demand resources are available to the single computer, and access to the on demand resources is controlled by a manufacturer of the single computer.

31. (Previously Presented) The method of claim 30, wherein providing grid resources to the logical partition comprises:

determining that use of partition resources of the logical partition has at least exceeded a partition utilization threshold; and

in response to the determining, allocating the grid resources to the logical partition.

32. (Original) The method of claim 31, wherein providing the on demand resources to the logical partition comprises:

determining that use of grid resources has at least exceeded a grid utilization threshold; and

in response to the determining, allocating the on demand resources to the logical partition.

33. (Original) The method of claim 32, wherein the grid utilization threshold comprises an amount of grid resources used during a predetermined amount of time.

34. (Original) The method of claim 30, further comprising:

applying a first fee for use of the grid resources; and

applying a second fee for use of the on-demand resources.

35. (Original) The method of claim 34, wherein at least one of the first fee and the second fee vary based on a factor chosen from the group consisting of a time of day and a time of year.

36. (Previously Presented) A method for deploying a computer application on a host service provider system, comprising:

installing a computer application on a logical partition of a single computer, the single computer having on-demand resources associated therewith, wherein the on-demand resources are available to the single computer, and access to the on demand resources is controlled by a manufacturer of the single computer;

associating the logical partition with a grid, the grid having grid resources that are available for use by any logical partition of the single computer;

configuring the single computer to provide the grid resources to the logical partition based upon usage of the partition resources of the logical partition; and

configuring the single computer to provide the on-demand resources to the logical partition based upon a usage of the grid resources.

37. (Original) The method of claim 36, further comprising:
applying a first fee for use of the grid resources; and
applying a second fee for use of the on-demand resources.

38. (Previously Presented) The method of claim 1, further comprising providing on demand resources to one of the plurality of logical partitions.

39-40. (Cancelled)

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.